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BRIEF NOTE

BURROWING CRAYFISH TRAP[1]

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Hobbs (1981) recognizes 3 groups of burrowing crayfish: primary, secondary and tertiary. Those classified as primary burrowers are the most difficult to study. They spend most of their lives in a burrow and are usually collected at night when they are most active, or by excavating the burrow. Excavating is an arduous task and destroys the burrow. Night collecting can be efficient, but due to the erratic activity of crayfish, this technique is often unsuccessful. The trap described here was first conceived and built as a collecting device for survey studies. This is still considered a valid use, but a more valuable application has been realized.

If the burrow is destroyed to collect the crayfish, natural habitat studies are impossible. Using the trap, animals can be captured, measured, marked, released, and recaptured. I believe a pleura clipping method (Goellner, 1943) would be effective for marking the crayfish.

I have used the trap in a local survey study with a success rate of 13%. Primary burrowers caught are: *Cambarus (Lacunicambarus) diogenes diogenes* (Girard 1852) and *Fallicambarus (Creaserinus) fodiens* (Cottle 1863). Other species captured are: *Procambarus (Scapulicambarus) clarkii* (Girard 1852); *Orconectes rusticus* (Girard 1852); *Orconectes immunis* (Hagen 1870), and *Cambarus (Cambarus) bartonii cavatus* (Hay 1902).

Although I am sure other, more effective, materials will be discovered, the present trap is constructed of 3.8-cm (1¼″) or 5.1-cm (2″) plastic drain pipe approximately 30.6 cm (12″) long. The flap is 26-gauge galvanized sheet metal, and the hinge is #16 wire.

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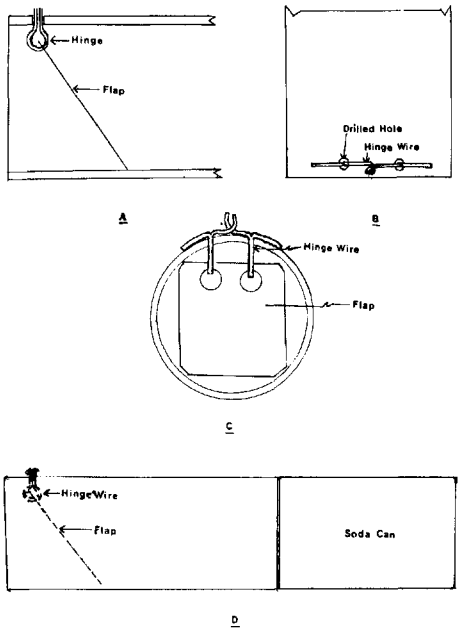

FIGURE 1. (A) Cut-away of flap end of trap showing hinge and flap in position. (B) Flap end of trap showing position of hinge wires; one pair wound together and other pair bent over side of pipe. (C) End view showing flap and hinges in position and hinge wires outside trap. (D) Side view of complete trap with cover. Hinge and flap indicated by dashed lines to show proper position. Note: None of the drawings are to scale.

To shape the hinge, a piece of wire is bent around the handle of a dental pick to form a loop about .6 cm (¼") in diameter. The length of wire will vary but must be long enough to twist together after being placed in the pipe (fig. 1C).

Two .6-cm (¼") holes are drilled in the flap, and the hinge wires are inserted so the loop supports the flap. This combination is placed in the pipe with the flap in position, and the hinge wires are pushed up through two .3-cm (⅛") holes in the pipe (fig. 1A). One wire from each hinge is twisted together, and the other wire is bent down along the pipe (fig. 1C). The hinges should be adjusted so the flap moves freely.

For covers, I used tape on the small pipe and a soda can with the top removed for the larger pipe. I also caught crayfish in a trap that had no cover, so it may not be necessary. The primary burrowers probably do not intend to leave their burrows, and I have no idea what motivates them to move about and get caught. This and other intriguing aspects of the habits of these animals may be answered with the help of this trap.

The trap is set by placing it in a burrow entrance at or near a vertical position. The flap must be closed. The first few centimeters of a burrow may have to be excavated to allow the trap to be inserted far enough to stay in place.

LITERATURE CITED

Goellner, K. E. 1943 The life cycle and productivity of the crayfish *Cambarus immunis* (Hagen) Unpubl. Ph.D. Thesis Univ. Mich. Ann Arbor. 160 p.

Hobbs, H. H., Jr. 1981 The crayfishes of Georgia, Smith. Contr. Zool. No. 318, 549 p.